**Fermentation**

**1.** How does the industrial preparation of methanol from natural gas differ from the process of fermentation to form ethanol?

In your answer, you should include:

• a description of the two processes

• explanations of any conditions required

• balanced symbol equations for any reactions occurring

**2.** One method of producing ethanol is by fermentation.

Explain how ethanol is produced by fermentation.

In your answer, you should:

• complete the following word equation and balanced symbol equations

• identify and elaborate on any conditions required for fermentation to occur.

glucose →

C6H12O6 →

**3**. Fermentation is one method that can be used to produce ethanol. Elaborate on how fermentation is used to produce ethanol. In your answer include:

• an explanation of the materials used and the products obtained

• the conditions required for fermentation to occur

• a balanced symbol equation.

**4.** Outline the fermentation process that produces ethanol from glucose (C6H12O6). Include the conditions

required for this process to occur, and a balanced symbol equation.

**5.** Ethanol is a fuel obtained by fermenting glucose (C6H12O6). Discuss the process of fermenting glucose into ethanol. In your answer, you should:

• draw a diagram showing the chemical structure of ethanol

• fully explain how the fermentation process works

• write a balanced symbol equation for the process.

**6.** Two uses of alcohols are in beverages (such as beer and wine), and as fuels. Alcoholic beverages are

made with **ethanol**. One way of making ethanol is by the process of fermentation.

Give an account of the process of fermentation. Your answer should include:

• the starting materials used and the products which are formed

• the conditions required for fermentation to occur

• a word equation for the fermentation reaction, showing all the reactants and products.

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